



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2013-0556; Directorate Identifier 2007-SW-30-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Erickson Air-Crane Incorporated Helicopters (Type Certificate previously held by Sikorsky Aircraft Corporation)**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to supersede an existing airworthiness directive (AD) for Sikorsky Aircraft Corporation (Sikorsky) Model S-64E helicopters. The existing AD requires checks of the main rotor blades for a crack. This proposed AD would retain the actions of the existing AD, would reflect that the type certificate (TC) for this model helicopter has been transferred to Erickson Air-Crane Incorporated (Erickson), and expand the applicability to include the similar Erickson Model S-64F helicopters. This proposed AD is prompted by a need to expand the applicability to include Model S-64F helicopters and clarify the applicable main rotor blades by part number. The proposed actions are intended to detect a crack in the main rotor blade and prevent blade separation and subsequent loss of control of the helicopter.

**DATES:** We must receive comments on this proposed AD by **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.
- Fax: 202-493-2251.
- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.
- Hand Delivery: Deliver to the “Mail” address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed AD, contact Erickson Air-Crane Incorporated, ATTN: Chris Erickson / Compliance Officer, 3100 Willow Springs Rd., PO Box 3247, Central Point, OR 97502; telephone (541) 664-5544; fax (541) 664-2312; email [cerickson@ericksonaircrane.com](mailto:cerickson@ericksonaircrane.com). You may review the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

**FOR FURTHER INFORMATION CONTACT:** JC Lin, Aviation Safety Engineer,  
Rotorcraft Certification Office, Rotorcraft Directorate, FAA, 2601 Meacham Blvd.,  
Fort Worth, Texas 76137; telephone (817) 222-5170; email [7-AVS-ASW-170@faa.gov](mailto:7-AVS-ASW-170@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

**Discussion**

On December 6, 1990, we issued AD 90-26-12, Amendment 39-6841 (55 FR 51406, December 14, 1990) for Sikorsky Model S-64E helicopters. The AD requires repetitive checks of the Blade Inspection Method (BIM) indicator of each main

rotor blade to determine whether the blade pressure has been compromised by a blade crack. These checks, which may be performed by the pilot, must be accomplished and recorded before the first flight of each day and thereafter at intervals not to exceed three hours time-in-service (TIS) for helicopters engaged in seven or more external lifts per hour or five hours TIS for operations with less than seven external lifts per hour or operations without an external load, with each check-interval measured from the last check. Those actions are intended to detect fatigue cracks in the blade, which could result in separation of the blade and loss of control of the helicopter.

#### **Actions Since Existing AD Was Issued**

Since we issued AD 90-26-12 (55 FR 51406, December 14, 1990) for Model S-64E helicopters, cracks have been discovered on the main rotor blades of Model S-64F helicopters. The main rotor blades used on the Model S-64F helicopter are similar to the main rotor blades used on the Model S-64E helicopter; however, Model S-64F was not included in AD 90-26-12. Also, on February 13, 1992, Sikorsky transferred TC H6EA for Model S-64E and S-64F helicopters to Erickson. Erickson later issued Service Bulletin (SB) No. 64F15-2, Revision A, dated July 14, 1999, for the Model S-64F and SB No. 64B15-4D, Revision D, dated January 26, 2001, for the Model S-64E. Erickson released SB No. 64F15-2 to provide the operation and check procedures for BIM blades installed on the Model S-64F helicopters. Several blade spars with a crack emanating from corrosion pits and other damage have been found because of BIM pressure indications, similar to the Model S-64E helicopters. The checks in SB No. 64F15-2 for the Model S-64F are the same as those required by AD 90-26-12 for the Model S-64E helicopters. We also determined that the primary temperatures listed in the Required Actions section of

this AD should be converted from degrees Celsius to degrees Fahrenheit and part numbers for the applicable main rotor blades should be specified for increased clarity.

### **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

### **Proposed AD Requirements**

This proposed AD would supersede AD 90-26-12 (55 FR 51406, December 14, 1990), to retain the same checks and procedures, but in a revised format to meet current publication requirements and to expand the applicability to include both the Erickson S-64E and S-64F helicopters. This proposed AD would require recurring checks of the BIM indicator on each blade to determine whether the BIM indicator is displaying a black or red color, which is an indication that the blade pressure may have been compromised by a blade crack. If there is a black or red color BIM indication, the proposed AD would require checking the BIM indicator to determine whether it is functioning properly. If the BIM indicator is malfunctioning, correcting it before further flight would be required. If the BIM indicator is functioning properly, and the blade BIM indication remains red or black, replacing the blade before further flight would be required. The proposed AD would require that the checks be accomplished and recorded before the first flight of each day and thereafter at intervals not to exceed three hours TIS for helicopters engaged in seven or more external lifts per hour or five hours TIS for operations with less than seven external lifts per hour or operations without an external load, with each check-interval measured from the last check. These checks may be performed by an owner/operator

(pilot) and must be entered into the helicopter maintenance records in accordance with 14 CFR 43.9(a)(1)-(4) and 91.417(a)(2)(v). A pilot may perform these checks because they involve only a check of the BIM pressure indicators and can be performed equally well by a pilot or a mechanic. This authorization is an exception to our standard maintenance regulations.

### **Costs of Compliance**

We estimate that this proposed AD would affect 27 helicopters of U.S. Registry. We estimate that operators may incur the following costs in order to comply with this AD. Each visual BIM pressure indicator color check would take about 0.1 work-hour at an average labor rate of \$85 per work-hour. Based on these figures, each visual BIM pressure indicator color check would cost about \$9 per helicopter or \$230 for the fleet. Each BIM pressure indicator function check would take about 0.25 work-hour, and would cost about \$21, or \$574 for the fleet.

If a main rotor blade must be replaced, it would take about 2 work-hours and required parts would cost about \$125,000. Based on these figures, it would cost about \$125,170 per helicopter to replace a main rotor blade.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress

charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 90-26-12 (55 FR 51406, December 14, 1990), and adding the following new AD:

#### **ERICKSON AIR-CRANE INCORPORATED (TYPE CERTIFICATE PREVIOUSLY HELD BY SIKORSKY AIRCRAFT CORPORATION):**

Docket No. FAA-2013-0556; Directorate Identifier 2007-SW-30-AD.

##### **(a) Applicability.**

This AD applies to Erickson Air-Crane Incorporated (Erickson) Model S-64E and S-64F helicopters, with rotary wing blade assembly (main rotor blade), part number (P/N) 6415-20201-043, -045, -047, -048, -049, -050, or -051; or 6415-20601-041, -042, -043, -044, -045, -046, -047, -048, -049, -050, -051, or -052, installed, certificated in any category.

##### **(b) Unsafe Condition.**

This AD defines the unsafe condition as a crack in the main rotor blade (blade), which could result in blade separation and subsequent loss of control of the helicopter.



**(c) Affected ADs.**

This AD supersedes AD 90-26-12, Docket No. 90-ASW-27, Amendment 39-6841 (55 FR 51406, December 14, 1990).

**(d) Comments Due Date.**

We must receive comments by **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**(e) Compliance.**

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

**(f) Required Actions.**

(1) Before further flight, visually check the Blade Inspection Method (BIM) pressure indicators of the main rotor blades for a black or red color indication.

(2) Before further flight, replace any blade with a black or red color indication in a BIM pressure indicator with an airworthy part of the same part number unless the black or red color indication is determined to be the result of BIM system malfunction.

Note 1 to paragraph (f)(2) of this AD: Paragraphs (f)(4)(i-iv) of this AD specify how to determine if a BIM system is functioning correctly.

(3) Repeat the visual BIM pressure indicator check required by paragraph (f)(1) of this AD prior to the first flight of each day and thereafter at intervals not to exceed:

(i) Three hours time-in-service (TIS) from the last check for helicopters engaged in seven or more external lifts per hour; or

(ii) Five hours TIS from the last check for helicopters engaged in either less than seven external lifts per hour or operation without external cargo.

(4) Prior to the first flight of each day, check the BIM pressure indicator for proper function as follows:

(i) Press in and hold the manual test lever (grenade-type handle) on the raised area of the handle over the pin-type actuation plunger. Do not handle the indicator glass bulb since the heat of the hand may change the internal reference pressure and result in an erroneous indicator reading.

(ii) Depress the actuation plunger fully to shut off the pressure completely from the blade into the indicator. If necessary, press with the thumbs of both hands to overcome the plunger spring force.

Note 2 to paragraph (f)(4)(ii) of this AD: If pressure is applied to the end of the lever on the flat area, the actuation plunger will not fully depress.

(iii) Verify proper operation of the indicator by observing that a full-black or full-red (unsafe) indication appears in not less than 10 or more than 30 seconds after depressing the plunger for a temperature of 20 degrees F (-6.7 degrees C) or above. At lower temperatures, extend the upper limit to the corresponding time as follows:

(A) 19 to 0 degrees F (-7.2 to -17.8 degrees C); upper limit of 35 seconds.

(B) -1 to -20 degrees F (-18.3 to -28.9 degrees C); upper limit of 40 seconds.

(C) -21 to -40 degrees F (-29.4 to -40.0 degrees C); upper limit of 50 seconds.

(D) -41 to -60 degrees F (-40.5 to -51.1 degrees C); upper limit of 60 seconds.

(iv) Release the lever and observe that the black or red indication snaps back immediately, leaving an all-white or all-yellow (safe) indication.

(v) If the indicator does not meet the specified requirements, then either identify and correct the BIM indicator malfunction or replace the suspect main rotor blade with an airworthy blade of the same part number prior to further flight.

(5) The checks required by paragraphs (f)(1) and (f)(4)(i-iv) of this AD may be performed by the owner/operator (pilot) holding at least a private pilot certificate, and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9 (a)(1)-(4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417, 121.380, or 135.439.

**(g) Special Flight Permit.**

Special flight permits will not be issued.

**(h) Alternative Methods of Compliance (AMOCs).**

(1) The Manager, Rotorcraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: JC Lin, Aviation Safety Engineer, Rotorcraft Certification Office, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5170; email [7-AVS-ASW-170@faa.gov](mailto:7-AVS-ASW-170@faa.gov).

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

**(i) Additional Information.**

Erickson Air-Crane Incorporated Service Bulletins No. 64B15-4D, Revision D, dated January 26, 2001 for the Model S-64E and No. 64F15-2, Revision A, dated July 14,

1999 for the Model S-64F, which are not incorporated by reference, contain additional information about the subject of this AD. For service information, contact Erickson Air-Crane Incorporated, ATTN: Chris Erickson / Compliance Officer, 3100 Willow Springs Rd, PO Box 3247, Central Point, OR 97502; telephone (541) 664-5544; fax (541) 664-2312; email [cerickson@ericksonaircrane.com](mailto:cerickson@ericksonaircrane.com). You may review a copy of this information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

**(j) Subject.**

Joint Aircraft Service Component (JASC) Code: 6210, Main Rotor Blades.

Issued in Fort Worth, Texas, on June 18, 2013.

Kim Smith,

Directorate Manager, Rotorcraft Directorate,  
Aircraft Certification Service.

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